
Unicenter

TCPaccess Communications Server Getting Started

Version 6.0



Computer Associates
The Software That Manages eBusiness



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Contents

Chapter 1: Introduction

What's New in Unicenter TCPaccess Communications Server 6.0.....	1-2
Unicenter TCPaccess Communications Server Base.....	1-2
Unicenter TCPaccess Telnet Server	1-3
Unicenter TCPaccess FTP Server	1-3
Related Documentation.....	1-4
CA Services: Enabling Solutions Through Experience	3-5
CA Education Services	3-5
Computer Associates: The Software That Manages eBusiness	3-6
For More Information.....	3-6

Chapter 2: CA Common Services for z/OS and OS/390

CAIRIM	2-1
CA LMP	2-2
Requirements.....	2-2
Using CA LMP	2-3

Chapter 3: System Requirements

Installation Materials.....	3-2
Installation Prerequisites	3-2
OS/390 / ESA Release Level	3-3
SMS Requirements	3-4
APF Authorizations.....	3-5
Linked List Data Sets.....	3-6
Callable System Services Library and Language Environment.....	3-6
SAS/C Release Level.....	3-6
Hardware Requirements	3-7
3722/3762 Considerations	3-7

Chapter 4: Installation

Sample JCL to Unload the Tape.....	4-2
Installation Job Streams	4-2
Installation Steps for Unicenter TCPaccess	4-4

Chapter 5: Installation Verification Procedures

Executing RUNTCP as a Started Task	5-1
Sample Run JCL.....	5-2
Testing Unicenter TCPaccess in Loopback Mode	5-3
Verifying That the Application Servers Are Active	5-4
Stopping the RUNTCP Started Task.....	5-4
Verifying the API Installation.....	5-5
Testing TTCP TSO Command Processor.....	5-5

Chapter 6: Basic Configuration

Installation Considerations.....	6-2
Configuring your Network	6-2
MEDIA Statement	6-2
NETWORK Statement.....	6-3
Driver Statements	6-4
Route Statements	6-5
GLOBAL Statement	6-5
DNR Configuration	6-6
Starting Unicenter TCPaccess.....	6-7
Testing Connectivity.....	6-8
Basic Applications (Telnet, FTP).....	6-9
Testing Telnet	6-9
Testing FTP	6-9

Chapter 7: Diagnosis and Problem Reporting

Obtaining a SVC Dump	7-1
Obtaining JCL Output	7-2

Appendix A: Installation Data Sets

Index

Introduction

Welcome to Unicenter TCPaccess Communications Server!

TCPaccess was the first IP protocol stack for the z/OS and OS/390 environment. Since day one, its fault tolerant architecture and low storage and resource requirements, and real-time diagnostic capabilities have made it the first choice for discerning customers looking for:

- Top performance
- Reliability
- Serviceability combined with increased user and application productivity across the enterprise

Today, Unicenter TCPaccess Communications Server still maintains its traditional leadership in these roles while delivering increased integration with the Unicenter NetMaster suite of products and new features that are important to your organization.

This new release of the Unicenter TCPaccess Communications Server combines all the services of previous releases along with several new features and new Telnet and FTP servers.

What's New in Unicenter TCPaccess Communications Server 6.0

With release 6.0, Unicenter TCPaccess now consists of three components:

- Unicenter TCPaccess Communications Server
- Unicenter TCPaccess Telnet Server
- Unicenter TCPaccess FTP Server

Current TCPaccess customers are licensed for all three products.

The following sections describe the new features of each component.

Unicenter TCPaccess Communications Server

This component includes the datalink, IP, and transport layers of the TCPIP protocol suite, as well as all the other components of the previous releases of TCPaccess including GateD, DNR, SNMP, LPR, SMTP, and the previous Telnet and FTP servers.

New features include:

XCF Driver – Enables the use of the XCF to bypass the network when moving data within a SYSPLEX

Enhanced Bind/Port Security – Controls the ports on which an application can listen and the IP addresses to which it can bind

Application Dynamic VIPA Support – Allows applications to define and activate a VIPA address within a defined range

ARM Support – Registers with IBM's Automatic Restart Manager for improved recovery and availability

LMP Key Support – Computer Associates standard LMP keys replaces TCPaccess security keys

Unicenter TCPaccess Telnet Server

Features include:

- Use of UNIX System Services sockets
- Both TN3270 and TN3270E support
- SSL support
- Provides verified RTM statistics to the Unicenter NetSpy Network Performance and also to Unicenter NetMaster Network Management for TCP/IP for true response time measurement

Unicenter TCPaccess FTP Server

Features include:

- Use of UNIX System Services (USS) sockets so that the client can now be invoked in USS environment
- Exit points to Unicenter NetMaster File Transfer Management for superior management of file transfer activity

Your mainframe is a key component of your networked enterprise environment. Unicenter TCPaccess Communications Server extends the reliability, scalability and performance of the mainframe as a platform for connecting legacy data through an IP infrastructure to eBusiness applications. This is why our stack is welcomed in so many organizations worldwide.

Related Documentation

With Unicenter TCPaccess Communications Server, Computer Associates distributes a CA Common Services for z/OS and OS/390 (formerly known as Unicenter TNG Framework for OS/390 or CA90s) tape and the following guides:

Name	Contents
<i>CA Common Services for z/OS and OS/390 Administrator Guide</i>	Operating instructions for the CA Common Services for z/OS and OS/390.
<i>CA Common Services for z/OS and OS/390 Getting Started</i>	Installation procedures and installation JCL for CA Common Services for z/OS and OS/390.
<i>CA Message Guide</i>	Messages and codes for CA Common Services for z/OS and OS/390.

The complete documentation set for Unicenter TCPaccess Communications Server consists of:

- *Getting Started*
- *Planning Guide*
- *Customization Guide*
- *User Guide*
- *System Management Guide*
- *Prefixed Messages*
- *Unprefixed Messages and Codes*
- *Assembler API Concepts*
- *Assembler API Macro Reference*
- *C/Socket Programming Reference*
- *RPC/XDR Programming Reference*
- *Release Summary*

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When it comes to getting on the information fast track, CA Services can recommend and install a full suite of portal and knowledge management solutions to keep your business moving. And our associates offer the proprietary know-how on custom-fitting your enterprise for solutions ranging from life cycle management, data warehousing, and next-level business intelligence. Our experts will leave you with the technology and knowledge tools to fully collect, exploit, and leverage your data resources and applications.

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For training that must be extended to a wider audience—for a fraction of the cost and logistical hassle of sending everybody away to a class—CA Education offers excellent distance learning options.

Computer Associates: The Software That Manages eBusiness

The next generation of eBusiness promises unlimited opportunities by leveraging existing business infrastructures and adopting new technologies. At the same time, extremely complicated management presents challenges—from managing the computing devices to integrating and managing the applications, data, and business processes within and across organizational boundaries. Look to CA for the answers. CA has the solutions available to help eBusiness address these important issues. Through industry-leading eBusiness Process Management, eBusiness Information Management, and eBusiness Infrastructure Management offerings, CA delivers the only comprehensive, state-of-the-art solutions, serving all stakeholders in this extended global economy.

For More Information

After walking through this *Getting Started* guide, you can refer to the numerous resources available to you for additional information. Your product CD contains useful instructional documents that showcase your software and provide detailed explanations about the product's comprehensive, feature-rich components. In addition, the online help system at esupport.ca.com offers procedural information and answers to any questions you may encounter.

CA Common Services for z/OS and OS/390

To help you quickly understand all that CA Common Services for z/OS and OS/390 offers, this section provides a brief description of the common services that can be used by Unicenter TCPaccess Communications Server.

CAIRIM

CAIRIM, CAI Resource Initialization Manager, is the common driver for a collection of dynamic initialization routines that eliminate the need for user SVCs, SMF exits, subsystems, and other installation requirements commonly encountered when installing systems software. These routines are grouped under the Computer Associates z/OS and OS/390 dynamic service code, S910. Some of the features of CAIRIM include:

- Obtaining SMF data
- Verification of proper software installation
- Installation of z/OS and OS/390 interfaces
- Automatic startup of CA and other vendor products
- Proper timing and order of initialization

No other services are required to operate properly.

Note: CAIRIM is mandatory for Unicenter TCPaccess Communications Server. It must be installed and started within 30 minutes of IPL time. CAIRIM is part of the CA Common Services for z/OS and OS/390.

CA LMP

The CA License Management Program (LMP) provides a standardized and automated approach to the tracking of licensed software. It uses common realtime enforcement software to validate the user's configuration. CA LMP reports on license, usage, and financial activities of Unicenter TCPAccess Communications Server. The routines that accomplish this are integrated into the Computer Associates z/OS and OS/390 dynamic service code, S910 (the CAIRIM service). Some of the features of CA LMP include:

- Common key data set can be shared among many CPUs
- *Check digits* are used to detect errors in transcribing key information
- Execution keys can be entered without affecting any CA software solution already running
- No special maintenance requirements

Requirements

Unicenter TCPAccess Communications Server requires CA Common Services for z/OS and OS/390 at genlevel 9901 or above.

Refer to eSupport for additional Unicenter Services minimum genlevel requirements for your release of OS/390 or z/OS.

Using CA LMP

Unicenter TCPaccess Communications Server requires CA LMP (License Management Program), one of the Common Services, to initialize correctly. CA LMP also provides a standardized and automated approach to the tracking of licensed software.

CA LMP is provided as an integral part of CAIRIM (Resource Initialization Manager), another one of the Common Services. If CAIRIM has not already been installed on your system, you must do so now. Once CAIRIM has been installed or maintained at Service Level C1/9901 or higher, CA LMP support is available for all CA LMP–supported CA software solutions. See the *CA Common Services for z/OS and OS/390 Getting Started* guide for detailed instructions on installing CAIRIM.

Examine the CA LMP Key Certificate you received with your Unicenter TCPaccess Communications Server installation or maintenance tape. That certificate contains the following information:

Fields	Descriptions
Product Name	The trademarked or registered name of the CA software solution licensed for the designated site and CPUs.
Product Code	A two-character code that corresponds to Unicenter TCPaccess Communications Server.
Supplement	The reference number of your license for Unicenter TCPaccess Communications Server, in the format <i>nnnnnnn - nnn</i> . This format differs slightly inside and outside North America, and in some cases may not be provided at all.
CPU ID	The code that identifies the specific CPU for which installation of Unicenter TCPaccess Communications Server is valid.

Fields	Descriptions
Execution Key	An encrypted code required by CA LMP for Unicenter TCPaccess Communications Server initialization. During installation, it is referred to as the LMP Code.
Expiration Date	The date (<i>ddmmmyy</i> as in 01AUG00) your license for Unicenter TCPaccess Communications Server expires.
Technical Contact	The name of the technical contact at your site responsible for the installation and maintenance of Unicenter TCPaccess Communications Server. This is the person to whom CA addresses all CA LMP correspondence.
MIS Director	The name of the Director of MIS, or the person who performs that function at your site. If the title but not the individual's name is indicated on the Certificate, you should supply the actual name when correcting and verifying the Certificate.
CPU Location	The address of the building where the CPU is installed.

The CA LMP execution key, provided on the Key Certificate, must be added to the CAIRIM parameters to ensure proper initialization of Unicenter TCPaccess Communications Server. To define a CA LMP execution key to the CAIRIM parameters, modify member KEYS in the OPTLIB data set.

The parameter structure for member KEYS is as follows:

```
PROD(pp) DATE(ddmmmyy) CPU(tttt-mmml sssss)  
LMPCODE(kkkkkkkkkkkkkkkk)
```


Where:

pp—Required. The two-character product code. For any given CA LMP software solution, this code agrees with the product code already in use by the CAIRIM initialization parameters for earlier gen levels of that software solution.

The two-character product codes for Unicenter TCPaccess are:

Y8 Communications Server

2F Telnet Server

0V FTP Server

ddmmmyy—The CA LMP licensing agreement expiration date.

tttt-mmmmm—Required. The CPU type and model (for example: 3090 - 600) on which the CA LMP software solution is to run. If the CPU type and/or model require less than four characters, blank spaces are inserted for the unused characters.

ssssss—Required. The serial number of the CPU on which the CA LMP software solution is to run.

kkkkkkkkkkkkkkkk—Required. The execution key needed to run the CA LMP software solution. This CA LMP execution key is provided on the Key Certificate shipped with each CA LMP software solution.

The following is an example of a control statement for the CA LMP execution software parameter. Although this example uses the Unicenter TCPaccess Communications Server two-character product code, the CA LMP execution key value is invalid and is provided as an example only!

```
PROD(VP) DATE(01AUG00) CPU(3090- — -600 /370623)
LMPCODE(52H2K06130Z7RZD6)
```

For a full description of the procedure for defining the CA LMP execution key to the CAIRIM parameters, see the *CA Common Services for z/OS and OS/390 Getting Started*.

System Requirements

This chapter provides a brief overview of the requirements necessary for a Unicenter TCPaccess Communications Server installation using SMP/E.

It contains the following sections:

- [Installation Materials](#)
- [Installation Prerequisites](#)

For detailed information about these installation procedures, refer to:

- The SMP/E installation of the product as outlined in this guide
- The security modifications outlined in the *Planning Guide*

Installation Materials

Before beginning the installation procedure, make sure that you have the following Unicenter TCPaccess installation materials:

- The installation tape – the volume serial number is specified on the PML (product maintenance letter) received with the installation package
- The CA Common Services for z/OS and OS/390 tape and documentation
- The documentation list described in the chapter “Introduction”

Installation Prerequisites

To operate this version of Unicenter TCPaccess, your IBM software should be at an IBM supported release equal to or greater than the following:

- OS/390 Release 2 Version 8
Note: If running Telnet SSL, you will need a minimum of OS/390 Version 2.10.
- DFSMS 1.3 and above
- ACF/VTAM 3.9 and above
- PSF MVS 3.1 and above

If you are running any of the following software, it must meet these requirements to run concurrently with this version of Unicenter TCPAccess:

- CICS/ESA Release 4.1 and above (includes CICS Transaction Server For OS/390 Version 1 Release 1 through Version 1 Release 3)

For 4.1 PTF UQ18193 is necessary for the successful operation of the CICS Web Interface (CWI).

TS 1.1 requires PTF UQ19747 for the successful operation of the CICS Web Interface (CWI).

- IMS/ESA Version 4 Release 1 and above
- CA Common Services for z/OS and OS/390 Genlevel 9901 or above

OS/390 / ESA Release Level

Unicenter TCPAccess requires an IBM supported release of OS/390 or z/OS. Contact Customer Support to verify that your system is at the correct supported level.

Important! To use the SSL enabled Telnet server, you must be at OS/390 2.10 or higher.

PDSE/SMS Requirements

The Unicenter TCPaccess Telnet Server requires PDSE libraries. The Unicenter TCPaccess installation jobs, ALLOCSMP and ALLOCTEL include a symbolic of SMSCLAS. This symbolic represents the SMS storage class and is used to allocate the PDSE libraries.

The following data sets are defined as PDSEs:

ALLOCTEL – TLNLOAD and ATLNLOAD
ALLOCSMP – SMPLTS

Note:

- Support for non-SMS PDSEs is provided in DFSMS/MVS 1.4 and 1.5 with the appropriate maintenance applied. It is in the base of DFSMS 2.10. If you want to use non-SMS PDSEs replace STORCLAS with the UNIT= and VOL=SER= parameters.
- Some maintenance levels of data set utilities such as PDSMAN do not support PDSEs. If you are using such a product, be sure that it supports PDSEs or use the standard IBM IEBCOPY utility.

APF Authorizations

The following files are APF-authorized.

<i>hlq</i> .LOAD	TCPaccess program library
<i>hlq</i> .LINK	TCPaccess client commands
<i>hlq</i> .PFSLOAD	TCPaccess PFS modules for use with UNIX System Services
<i>hlq</i> .SASLINK	Runtime modules for Unicenter TCPaccess commands such as PING and TRACEROUTE.
<i>hlq</i> .TLNLOAD	Telnet Server program library*
<i>hlq</i> .FTPLoad	FTP Server program library*
<i>hlq</i> .FTPLINK	FTP Server library containing the client program

* If installed and running in the TCPaccess address space these libraries must be included in the STEPLIB concatenation.

Note: CEE.SCEERUN, an APF authorized library must always be available through linklist or STEPLIB. GSK.SGSKLOAD and CBC.SCLBDLL are also required when using Telnet SSL.

Linked List Data Sets

We recommend the LINK and SASLINK data sets be link listed to avoid having to include STEPLIBs in TSO procedures and batch jobs.

If you plan to use the TCPaccess FTP Server's FTP Client program, you should also add FTPLINK to the list of link listed data sets.

If TCPaccess is used with UNIX System Services the PFSLOAD library must be either in the linklist or included in the STEPLIB in the OMVS cataloged procedure.

Note: the LOAD library must **never** be included in the linklist.

Callable System Services Library and Language Environment

You must have the Callable System Services library, SYS1.CSSLIB, available for the installation. Modules from this library are linked with Unicenter TCPaccess 6.0 for UNIX System Services support.

IBM's Language Environment link-time library, SCEELKED, is also a required SMP/E data set used by the CALLLIB facility.

Important! *Unicenter TCPaccess will not install properly without these libraries.*

SAS/C Release Level

Unicenter TCPaccess is compiled with SAS/C Release 6.5 and shipped with SAS/C 7.0 runtime modules. In general, SAS/C runtime libraries must be at a release equal to or higher than that with which a program has been compiled. If you are not running with the correct SAS/C libraries, unpredictable results may occur.

Hardware Requirements

A hardware connection is required for Unicenter TCPaccess Communications Server to send and receive network traffic. Several drivers are supported in Unicenter TCPaccess Communication Server for the details of each driver and the configuration options refer to the “Network Configuration” chapter in the *Customization Guide*.

3722/3762 Considerations

Interlink 3722 and 3762 users running the CETI interface should install the latest release of microcode. The CETI driver may terminate at startup if you are using earlier releases. Bus-tech now recommends the 8232 (IBM 3172) microcode. The latest 8232 microcode is also acceptable.

Installation

This chapter describes the steps to install Unicenter TCPaccess.

The following topics are discussed in this chapter:

- [Sample JCL to Unload the Tape](#)
- [Installation Steps for Unicenter TCPaccess](#)

For detailed information about these installation procedures, refer to:

- The pre-installation procedures outlined in the *Planning Guide*
- The security modifications outlined in the *Planning Guide*

Sample JCL to Unload the Tape

Important! In order to install Unicenter TCPaccess, you must have READ access to the data sets on the installation tape. A list of these data sets is provided in the appendix "Installation Data Sets."

Copy and execute the following JCL to unload the control file from which you will be able to install and customize Unicenter TCPaccess. This control file, INSTLJCL, is on your Unicenter TCPaccess base tape.

```
//UNLDTCP JOB (TCPaccess), 'UNLOAD TCP SAMP',MSGCLASS=X
//*
//UNLOAD EXEC PGM=IEBCOPY
//INDD DD DISP=SHR,DSN=INSTLJCL,VOL=SER=NMD600,
// LABEL=(1,SL,,EXPDT=98000),UNIT=UNITNAME
//OUTDD DD DSN=trgindx.CNTL,DISP=(NEW,CATLG,DELETE),
// VOL=SER=trgv01,SPACE=(TRK,(30,2,25)),UNIT=trguni,
// DCB=(DSORG=PO,RECFM=FB,LRECL=80,BLKSIZE=6160)
//SYSPRINT DD SYSOUT=holdc1
//SYSIN DD *
COPY INDD=((INDD,R)),OUTDD=OUTDD
```

Installation Job Streams

The following Unicenter TCPaccess components are on the tape:

- Unicenter TCPaccess Communications Server
- Unicenter TCPaccess Telnet Server
- Unicenter TCPaccess FTP Server

JCL is provided to install them all and the provided installation job streams are as follows:

ALLOCSMP	Creates and defines the data sets necessary to set up an SMP environment.
ALLOCSHR	Creates and defines the data sets that are shared by the three products.
ALLOCTCP	Creates and defines the data sets needed to install Unicenter TCPaccess.

ALLOCTEL	Creates and defines the data sets needed to install the Telnet Server.
ALLOCFTP	Creates and defines the data sets needed to install the FTP Server.
INSTSMPR	Runs the SMPE steps necessary to receive the products and associated maintenance from the tape.
INSTSMPA	Runs the SMPE steps necessary to apply and accept the products and apply the associated maintenance.

To selectively install one or more products use the following chart:

Allocation Job	Unicenter TCPaccess	FTP Server	Telnet Server
ALLOCSMP	X	X	X
ALLOCSHR	X	X	X
ALLOCTCP	X		
ALLOCFTP		X	
ALLOCTEL			X

Additional system and language environment libraries are required for the installation process and DDdef statements for them are included in the JCL streams.

Check the naming conventions at your site and use the following chart to determine where they are defined.

Allocation Job	CSSLIB	SCEELKED	SCEELKEX	SCEECP	SCLBSID
ALLOCSMP					
ALLOCSHR		X			
ALLOCTCP	X				
ALLOCFTP					
ALLOCTEL	X		X	X	X

Installation Steps for Unicenter TCPaccess

Member names referenced in the following instructions are located in the CNTL file that you loaded onto your system in the JCL above.

1. Edit the symbolics, shown at the top of each JCL stream, so that they conform with the naming conventions of your site.

You can edit the data set names in the following steps manually or you can use TCPNAMES, an edit macro supplied with Unicenter TCPaccess. To use TCPNAMES, copy the TCPNAMES member to a data set listed in the SYSPROC concatenation of your TSO logon procedure. Modify the JOBCARD member for TCPNAMES to use.

The LNKINDX data set is allocated as a SYS1 data set if TCPNAMES is used.

Note:

- For the link data set to be link listed, it must be catalogued in the master catalog.
- If you would like all data sets to be SMS controlled, make the following global changes:

All ALLOC jobs – 'C ALL VOL=SER STORCLAS'

For ALLOCSMP – 'C ALL VOLUME(STORCLAS('

Substitute the SMS storage class for all occurrences of SMPVOL, TRGVOL, DSTVOL and TLBVOL.

2. Verify that there is adequate space on the volume you have specified. Unicenter TCPaccess requires 300 cylinders of DASD. The LNKINDX data set is allocated as a SYS1 data set if TCPNAMES is used.

Note: For the link data set to be link listed, it must be catalogued in the master catalog.

3. Use ALLOCSMP to allocate the data sets for the Unicenter TCPaccess SMP/E install.

WARNING! *Unicenter TCPaccess 6.0 must be installed into a new CSI. Do not install over an existing release.*

4. Execute ALLOCSHR to allocate the SMP/E data sets shared by all products.
5. Execute ALLOCTCP.
6. If installing the FTP server execute ALLOCFTP.
7. If installing the Telnet Server execute ALLOCTEL.

8. Execute INSTSMPR to RECEIVE products and associated maintenance.
 - SMP/E requires a six MB region to install Unicenter TCPaccess. If you are using a tape management system such as CA1, you must modify the label parameter on your DD statements to include EXPDT=98000.

LABEL=(2,SL,,EXPDT=98000)

- The INSTSMPR job as distributed includes the FMIDs for all products. There are no changes required if all products are to be installed.

Note: To selectively install one or more of the products you must modify the job to include only the desired FMIDs.

Use the following chart to determine which FMIDs are required.

FMID	Unicenter TCPaccess	FTP Server	Telnet Server
C2E600I	X	X	X
C2E600S	X	X	X
C2E600T	X		X
C2E600X	X	X	X
C2E600C	X		
C2E6000	X		
C196000		X	
C2C6000			X

9. Execute INSTSMPA to APPLY and ACCEPT the base product and to APPLY the associated maintenance.

The following DD statement is required if the Telnet Server is installed.

```
//GSKSSL DD PATH='/usr/lib/GSKSSL.x',  
// PATHOPTS=ORDONLY
```

WARNING! *The above path name is case-sensitive.*

It contains IMPORT statements that are used by the Binder during the APPLY step to resolve external references to Dynamic Link Library (DLL) functions. The PATH name specified is the IBM installed one. Modify it if you have changed the name at your site.

10. Get the latest maintenance.

Apply the latest maintenance prior to beginning any customization, as configuration files or parameters may have changed.

Check for the most recent PTFs via StarTCC by using the following URL: <http://support.ca.com/>

Note: If there are no applicable PTFs, the installation is complete and you can skip the remaining steps.

From the left panel, select StarTCC.

If you are not registered, you **must** perform the following steps:

- a. Select StarTCC Registration (required first time only.

Note: If you are registered, skip to c.

The registration screen appears. You must complete and submit this form to register for Total Client Care (TCC) via the Internet.

You must have your Site ID and PIN Number to complete the registration. Your Site ID and PIN Number will be associated with your new user ID. CA-TCC gives you access to additional services based on your site's licensed products.

- b. Once you fill out the information, you will be sent a confirming email notice.
- c. Once you have registered, select the path to Registered Clients Only.
- d. Enter your user ID and password on the dropdown panel.
- e. The StarTCC Solution Download main menu appears. Note the new item notification at the bottom of the screen regarding proper handling of solution downloads. This gives you detailed information of the actual download process.

Important! If you have problems with the StarTCC download process, contact Customer Support or your Customer Relationship Manager.

- f. Select BROWSE/DOWNLOAD SOLUTIONS.
- g. Select PRODUCT AND RELEASE Search type. Then select the correct product.
 - For this product, choose:
NTCPAC - UNICENTER TCPACCESS
COMMUNICATIONS SERVER
 - Select Release 6.0 and press SELECT at the bottom of the panel
- h. A panel should be presented showing all of the PTFs for this release.

You can check multiple SELECT boxes, press the UPDATE STARTCC SOLUTION CART at the bottom of the screen, and then download a ZIP file containing all the PTFs you have selected.

11. Review the latest HOLDDATA.

To get the latest HOLDDATA, go to the StarTCC database on the Web site located at <http://support.ca.com/> and download the \$\$HOLD.BIN file.

The file can be found in Solution 3, APAR QO20643, of NTCAPAC - UNICENTER TCPACCESS COMMUNICATIONS SERVER, Release 6.0. Instructions for accessing the StarTCC database are included in Step 9.

This file HOLDDATA contains hold information for any PTFs that may have been PE'd.

There are two file formats:

- \$\$HOLD.VIEW (PART2 of the solution) is in ASCII format and can be viewed online
- \$\$HOLD.BIN (PART3) is in binary (EBCDIC) format and must be transferred to the mainframe in binary

12. Execute SRVPAC.

Before executing this job:

- Modify the SMPPTFIN DD statement to point to the DASD data set containing the PTFs. It must be a sequential file.
- Modify the SMPHOLD DD statement to point to the DASD data set containing the HOLDDATA. If there is no hold data, set the DD to DUMMY.

You may submit only the RECEIVE portion of this job first. This enables you to review any held PTFs, especially any with HOLD ACTION that may appear, and take appropriate action. It will also let you add additional BYPASS HOLD keywords to your APPLY statement.

Installation Verification Procedures

This section includes the Installation Verification Procedures (IVP) that you should run to ensure that the Unicenter TCPaccess software installed correctly.

Executing RUNTCP as a Started Task

No network interface device is required to execute in loopback mode. Data is not written to or read from the channel. The Local Network Interface (LNI) copies outbound data into the input buffers. You can establish connections only to your own host when operating in software loopback mode.

Using SAMP member RUNTCP as a model, create a started task JCL procedure in a JCL procedure library at your site.

Substitute appropriate values for the TRGINDX, SSN, SRC, SOUT, and CMND parameters.

Issue an MVS START command to start the RUNTCP started task.

From an MVS console, issue this MVS command:

```
S RUNTCP
```

Sample Run JCL

Here is sample JCL to run Unicenter TCPAccess in Loopback:

```
***** Top of Data *****
//RUNTCP JOB /*JOBPARM LINES=999
//**MAIN LINES=(999,W)
//*
//* SAMPLE JCL PROCEDURE TO RUN TCP/IP
//* THIS JCL CAN BE USED WITH ANY INTERFACE
//*
//* EDIT THE TRGIDX, SSN, SRC, SOUT, CMND SYMBOLIC
//* PARAMETERS
//*
//* VERIFY THAT THE JOB CARD AND NAMING CONVENTIONS MEET
//* YOUR SITE'S JCL REQUIREMENTS, THEN SUBMIT THIS JOB.
//*
//TCP/IP PROC TRGIDX='TRGIDX', TARGET LIBRARIES DSN INDEX
//          SSN=ACSS,          DFLT SUBSYSTEM NAME
//          SRC='% ',          DFLT SUBSYSTEM RECOGNITION CHAR
//          SOUT='* ',          CHOOSE A HOLD NONPURGE SYSOUT CLASS
//          CMND=START00,       DFLT STARTUP COMMAND SCRIPT NAME
//          CNFG=00             IJTFCGxx SUFFIX
//*
//TCP/IP EXEC PGM=IFSSTART,REGION=6144K,TIME=1440,
// PARM='IFSINIT,U=&SSN,SR=&SRC,SO=&SOUT,CM=&CMND,CF=&CNFG'
//*
//STEPLIB DD DISP=SHR,DSN=&TRGIDX..LOAD
//          DD DISP=SHR,DSN=&TRGIDX..SASLINK
//*
//* WARNING: THE LOAD DATA SET MUST NEVER BE ADDED TO THE LINK LIST.
//* TCPACCESS' ELEMENT NAMES ARE NOT UNIQUE AND COULD AFFECT
//* THE OPERATIONS OF OTHER SOFTWARE. THE LOAD DATA SET
//* SHOULD ALWAYS BE REFERENCED THROUGH A STEPLIB OR JOBLIB
//* STATEMENT.
//*
//* CONFIGURATION DATA SETS
//*
//SYSPARM DD DISP=SHR,DSN=&TRGIDX..PARM
//SYSPROC DD DISP=SHR,DSN=&TRGIDX..PARM
//*
//* LOG DATA SETS
//*
//T01LOG DD SYSOUT=&SOUT
//SYSPRINT DD SYSOUT=&SOUT
//DNRLLOG DD SYSOUT=&SOUT
//DNRERR DD SYSOUT=&SOUT
//GTDLOG DD SYSOUT=&SOUT
//GTDERR DD SYSOUT=&SOUT
//GTDTRC DD SYSOUT=&SOUT
//MAPLOG DD SYSOUT=&SOUT
//MAPERR DD SYSOUT=&SOUT
//SNMLOG DD SYSOUT=&SOUT
//*
//* DUMP DATA SETS
//*
```

```
//SYSUDUMP DD  SYSOUT=&SOUT
//*
//*          MISC DATA SETS
//*
//ARPAHELP DD  DISP=SHR,DSN=&TRGINDX..HELP
//SYSHELP  DD  DISP=SHR,DSN=&TRGINDX..HELP
//ABNLIGNR DD  DUMMY          /* DISABLE ABEND-AID PROCESSING */
//          PEND
//TCPIP     EXEC TCPIP
```

Testing Unicenter TCPAccess in Loopback Mode

The local Internet address for loopback is 127.0.0.1. See the *Customization Guide* for additional information on testing Unicenter TCPAccess in loopback mode.

Test the VTAM/TELNET interface by entering this VTAM LOGON command:

```
LOGON APPLID(ACCES) DATA(127.0.0.1)
```

Successful loopback returns the Server TELNET screen.

You might need to use the Assembler syntax for LOGON. Specify:

```
LOGON APPLID=ACCES, DATA=127.0.0.1
```

Enter **bye** to exit.

Test FTP and TELNET TSO commands by logging on to TSO and entering these commands:

TELNET Returns TSO TELNET Screen. Enter bye to exit.

FTP1 Returns FTP prompt. Enter end to exit.

FTP2 Returns FTP2 login prompt. Enter bye to exit.

To use the FTP1, FTP2, and TELNET commands, the LINK library must be available to your TSO STEPLIB concatenation or in the MVS link list.

If you plan to include FTP data transfer in the IVP, you must issue a SITE UNIT(disk) where disk is a valid DASD unit name at your installation.

Verifying That the Application Servers Are Active

Enter this MVS command from an MVS console to verify listeners are active.

F *jjjj*,NETSTAT CONN

Where: *jjjj* is the started task or job name.

Output is written to the console:

```
T00IJ000I NETSTAT CONN
T01NT020I Job jjjj processing: NETSTAT CONN
T01NT054I TCP  ATLI 0.0.0.0:1023<-->0.0.0.0:0 Listening
T01NT055I Bytes: 0 in, 0 out. Ses# 2 Idle 22:47:52 J=jjjj
T01NT054I TCP  ATLI 0.0.0.0:7<-->0.0.0.0:0 Listening
.
.
.
```

There should be a T01NT054I message for each port in the APPCFG00 SERVICE statements. There will also be entries for ports 111 (portmapper) and 161 and 162 (snmp). These will be listed as BOUND.

Stopping the RUNTCP Started Task

Enter this MVS command from an MVS console to terminate the started task:

P RUNTCP

If Unicenter TCPaccess displays a WTOR prompt, enter a **Y** to continue termination.

Verifying the API Installation

This section describes the Installation Verification Procedures (IVPs) you run to ensure the Unicenter TCPaccess API installed correctly.

Testing TTCP TSO Command Processor

Execute the TTCP TSO command processor to exercise the Unicenter TCPaccess API components. The *User Guide* describes how to run TTCP.

Execute this TTCP command in transmit mode to send data to the Unicenter TCPaccess TCP discard port:

```
TTCP TRANS PORT(9) HOST(127.0.0.1)
```

This command sends 1024 buffers of length 1024 to the discard port. You receive a message on successful completion.

Execute TTCP in two (2) TSO user address spaces so that one TTCP transmits data to the other receiving TTCP.

In one TSO user address space, enter this command:

```
TTCP RECV PORT(2000)
```

In the other TSO user address space, enter this command:

```
TTCP TRANS PORT(2000) HOST(127.0.0.1)
```

TTCP sends 1024 buffers of length 1024 from the TTCP in transmit mode to the TTCP in receive mode. You receive messages from each TTCP on successful completion. The TTCP in receive mode should be stopped via TSO attention.

Basic Configuration

This chapter describes the minimum configuration changes that you must make to obtain basic Unicenter TCPaccess functionality and to get the product up and running. After completing this chapter, you should be able to ping your MVS host and test Telnet and FTP.

The following topics are discussed in this chapter:

- [Installation Considerations](#)
- [Configuring your Network](#)
- [DNR Configuration](#)
- [Testing Connectivity](#)
- [Basic Applications \(Telnet, FTP\)](#)

Note: You are encouraged to make copies of the original configuration members and rename the suffix from 00 to some other two-character suffix. Any changes made to the members with the 00 suffix can be overwritten if subsequent maintenance is applied.

Installation Considerations

This chapter assumes that you are already familiar with and have completed:

- The pre-installation procedures outlined in the *Planning Guide*
- The SMP/E installation of the product as outlined in this guide
- The security modifications outlined in the *Planning Guide*

Configuring your Network

The statements required to define Unicenter TCPAccess on your network are in the TCPCFGxx member of the PARM data set. See the *Customization Guide* for detailed information.

MEDIA Statement

The MEDIA statement defines the first physical medium to which Unicenter TCPAccess is physically attached. Most of the parameters in the MEDIA statement can be left at the default values for startup, but you must set MEDIA NAME (*media_name*).

The full MEDIA statement is described in the *Customization Guide*.

The following is an example of a minimal configuration:

```
MEDIA NAME ( media_name )  
  
[ ETHERNET | VIRTUAL | CLUSTER | TOKEN4 | TOKEN16 | FDDI | HYPERCHANNEL |  
  CLAW | CDLC | CTC | XCF ]
```

ETHERNET | VIRTUAL | CLUSTER | TOKEN4 | TOKEN16 | FDDI |
HYPERCHANNEL | CLAW | CDLC | XCF |

Specify the type of network medium.

Note: Specify ETHERNET for 10 MB/sec or 100 MB/sec ethernet. CLUSTER is used for cluster sysplex load balancing support.

Default: ETHERNET.

NETWORK Statement

The NETWORK statement describes the interface between the network and the MVS host running Unicenter TCPaccess. At a minimum, you need to specify your MVS host IP address in the IPADDRESS parameter. If your site supports subnets, you will need to specify that as well. Both must be specified in dot notation. A minimal configuration is shown below.

```
NETWORK IPADDRESS(a.b.c.d)
```

```
SUBNET(a.b.c.d)
```

For more information on the NETWORK statement, see the “Network Configuration” chapter in the *Customization Guide*.

Driver Statements

Driver statements follow the NETWORK statements and enable you to specify the hardware driver that you plan to use.

The following information is a summary of the minimum parameter requirements needed by the named driver:

Driver	Minimum Parameter Requirements
CETI	DEVADDR
CLAW	DEVADDR HOSTNAME WSNAME
CDLC	DEVADDR
CTC	DEVADDR
HYPER	CUTYPE DEVADDR
LINK	LCSNAME on the LINK statement CUTYPE and DEVADDR on the LSC statement <ul style="list-style-type: none">– For 3172s, LOCALADDR and NOFILTER are required– For IBM's 2216 LOCALADDR and NOFILTER is required– For OSAs LOCALADDR is required– For OSA Express with updated EC levels NOTIMING is required on the LCS statement
XCF	None

For more information on these parameters, see “Driver Statements” and “Network Configuration” in the *Customization Guide*.

Route Statements

You define your routing with the ROUTE statement. At a minimum you should define a default route. Here is an example:

```
ROUTE DEST(DEFAULT) ROUTER (a.b.c.d) MASK(a.b.c.d)
```

For more information on these parameters, see the chapter “Internet Route Configuration” in the *Customization Guide*.

GLOBAL Statement

No changes are required in the APPCFGxx member, if:

- You use the supplied, sample VTAM definition
- Are running JES2
- Will **not** be using a Domain Name Server

If using a different VTAM ACB, running JES3, or using a Domain Name Server, update the GLOBAL statement in the APPCFGxx member with the following:

```
GLOBAL ACBNAME(acbname)  
      JES(3 JES3 JES3 *)  
      DNR(* 30)
```

For more information on these parameters, see the *Customization Guide*.

DNR Configuration

The Domain Name Resolver provides information about network objects by answering queries. If you want to reach other hosts on your network, you need to configure DNR for your host. For detailed information about DNR, see the “Domain Name Resolver” chapter in the *Customization Guide*.

At a minimum, you need to edit two DNR members.

You need to map the subsystem name to the fully-qualified host name and the fully-qualified host name to the IP Address in the DNRALCxx member as shown in this example:

```
ACSS      host.our.com.      OUR TCP/IP SUBSYSTEM NAME
Host.our.com  XXX.XX.XX.X    IP address coded on the NETWORK
                                statement in the TCPCFG.
```

You will need to define your domain in the DNRSLCxx member as shown below:

```
OUR.COM.   <=== PLACE YOUR DOMAIN HERE
.          PUT ROOT LEVEL NEXT
```

If you are using a Domain Name Server you also need to add the DNS to the DNRNSCxx member as shown in this example:

```
OUR.COM. SERVERA.OUR.COM. XXX.XX.XX.X <== SET SERVER FOR YOUR DOMAIN
```


Starting Unicenter TCPaccess

Note: No changes to the STARTxx command are needed to run Unicenter TCPaccess are needed.

1. Update the STARTxx member to point to the new configuration members as shown in the following example:

DISPLAY IFS

DISPLAY SRC

START TCP CNFG(xx)

START RTM CNFG(00)

START APP CNFG(xx)

START DNR CNFG(xx)

START MAP CNFG(00)

START SNM CNFG(00)

SET TEST ON TGB(TCP APP)

2. Start Unicenter TCPaccess using the STARTxx member.

Testing Connectivity

Once Unicenter TCPaccess is started on your host, verify that the host can be reached from the network.

PING

Use this command to determine if your host is reachable from another host on your network.

From a host on the network, execute the ping command, first giving the IP address (in dotted decimal notation). If you receive a reply (host is alive), then ping your host with the host name – if your host is defined to DNS.

DNRGET

Use this command to query DNR and verify it is working correctly.

DNRGET executes as a TSO command processor. All messages are written and done with TPUTs that restrict its use to interactive TSO users only. In addition, the TSO profile option PROMPT must be set if DNRGET is to prompt for correct operands in the event of an error.

DNRGET cannot be invoked with the TSO CALL or TSOEXEC commands. Therefore, the LINK data set must be in your system's link list, in the STEPLIB DD concatenation of your TSO JCL procedure or added via the TSO STEPLIB command.

If, after invocation, DNRGET waits too long for a reply from the DNR, press PA1 to interrupt its execution without causing any errors. Here is an example:

```
DNRGET HOST BYNAME hostname
```

For more details on the DNRGET command, see the “Diagnostic Commands” chapter in the *Systems Management Guide*.

At this point, if you have successfully completed the verification procedures, the basic TCP/IP services have been configured and are running in a basic mode. Now you are ready to add Telnet and FTP services.

Basic Applications (Telnet, FTP)

To tailor the applications to your specific site requirements, see the chapters “Telnet and TN3270 Configuration” and “Configuring FTP” in the *Customization Guide*.

Testing Telnet

To test Server Telnet, use a TN3270 emulator and connect to the Unicenter TCPaccess host. You should get a response of “Enter Command or Help”.

Testing FTP

To test FTP, enter the command **ftp *hostname*** from a host on the network where *hostname* is the Unicenter TCPaccess hostname. The host should reply with:

```
Connected to hostname.yourcompany.com.  
220 HOSTNAME.YOURCOMPANY.COM -- FTP Server, Enter command or HELP  
Name (hostname:yourid):
```


Diagnosis and Problem Reporting

Generally, Customer Support needs the following documentation to help diagnose problems thoroughly:

- SVC dump of Unicenter TCPaccess and other related address spaces
- JCL output of the Unicenter TCPaccess job
- Case record from Customer Support

Refer to the *System Management Guide* for a complete description of diagnostic tools.

Obtaining a SVC Dump

Refer to the IBM document *MVS/ESA System Commands Reference Summary* for the syntax of the required DUMP commands. In particular, include all jobs involved in the problem using the JOBNAM parameter of the DUMP command.

Obtaining JCL Output

Copy the JCL output of RUNTCP to a file using the following procedure:

- If you are using JES2/SDSF, type **XDC** beside the job listed in SDSF and follow the panel instructions. This will let you copy to a data set of your choice. Generally, for every thousand lines of job output you need three 3390 tracks.

- If you are using JES3, you may use FLASHER or a similar product to copy the RUNTCP output to a data set in a similar fashion.

Installation Data Sets

The following is a list of installation tape data sets.

File Number	Data Set Name
1	INSTLJCL
2	SMPMCS
3	C196000.F1
4	C196000.F2
5	C196000.F3
6	C196000.F4
7	C2C6000.F1
8	C2C6000.F2
9	C2C6000.F3
10	C2C6000.F4
11	C2E600C.F1
12	C2E600C.F2
13	C2E600I.F1
14	C2E600I.F2
15	C2E600I.F3
16	C2E600I.F4
17	C2E600S.F1

File Number	Data Set Name
18	C2E600S.F2
19	C2E600S.F3
20	C2E600S.F4
21	C2E600S.F5
22	C2E600T.F1
23	C2E600T.F2
24	C2E600T.F3
25	C2E600T.F4
26	C2E600X.F1
27	C2E600X.F2
28	C2E600X.F3
29	C2E600X.F4
30	C2E6000.F1
31	C2E6000.F2
32	C2E6000.F3
33	C2E6000.F4
34	C2E6000.F5
35	C2E6000.F6
36	C2E6000.F7
37	C2E6000.F8
38	C2E6000.F9
39	C2E6000.F10
40	C2E6000.F11
41	C2E6000.F12
42	C2E6000.F13

File Number	Data Set Name
43	C2E6000.F14
44	C2E6000.F15
45	C2F1000.F1
46	C2F1000.F2
47	C2F1000.F3
48	C2F1000.F4
49	C2F1000.F5
50	SMPPTFIN

Index

3

3722/3762 considerations, 3-7

A

APF authorizations, 3-5

C

CA Common Services for z/OS and OS/390

CAIRIM, 2-1

CA LMP, 2-2, 2-3

CA LMP, 2-2

CAIRIM, 2-1

callable system services library, 3-6

CDLC parameter, MEDIA statement, 6-3

CLAW parameter, MEDIA statement, 6-3

connectivity, testing, 6-8

considerations, 3722/3762, 3-7

D

diagnosis and problem reporting, 7-1

DRIVER statement, 6-4

E

ETHERNET parameter, MEDIA statement, 6-3

F

FDDI parameter, MEDIA statement, 6-3

FTP testing, 6-9

G

getting JCL output for problem reporting, 7-2

H

hardware requirements, 3-7

HYPERCHANNEL parameter, MEDIA statement, 6-3

I

installation

- considerations, 6-2
- materials, 3-2
- prerequisites, 3-3
- tape data sets, A-1
- verification procedures (IVPs), 5-1

installation job streams, 4-2

installation steps, 4-4

installation tape data sets, A-1

installation verification procedures (IVPs),
executing RUNTCP as a started task, 5-1

INSTLJCL control file, 4-2

J

JCL

- sample run, 5-2
- sample run
 - sample run JCL, 5-2

JCL output for problem reporting, 7-2

JCL to unload the tape, 4-2

L

license management program, 2-3

linked list data sets, 3-6

loopback mode, testing in, 5-3

M

MEDIA statement, 6-2

N

NETWORK statement, description, 6-3

P

problem reporting, 7-1, 7-2

R

ROUTE statement, 6-5

executing CNTL member RUNTCP, 5-1

S

sample run JCL, 5-2

SMS requirements, 3-4

software prerequisites, 3-2

START command, 5-1

stopping RUNTCP started task, 5-4

T

TCPCFGxx statements, NETWORK, 6-3

Telnet, testing, 6-9

testing

- connectivity, 6-8
- FTP, 6-9
- in loopback mode, 5-3
- Telnet, 6-9
- TTCP TSO command processor, 5-5

TOKEN16 parameter, MEDIA statement,
6-3

TOKEN4 parameter, MEDIA statement, 6-3

TSO, TTCP command processor, 5-5

U

Unicenter TCPaccess

API installation verification
procedures, 5-5

unloading the product tape, JCL, 4-2

V

VIRTUAL parameter, MEDIA statement,
6-3

VTAM/TELNET, testing the interface, 5-3



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